



October 16, 2007

# tideline aquatics Newsletter

## Tideline Aquatics Store Hours

Monday – Friday 11am-7pm  
Saturday 10am-6pm  
Sundays 1pm-5pm

## SAFE WATER PARAMETERS FOR YOUR AQUARIUM

Freshwater fish, saltwater fish and invertebrates all have safe ranges in water parameters that will keep them healthy. Regular water testing is the only means of keeping the water parameters within safe limits. Even if you perform partial water changes on a regular basis, the water parameters can still decline to a point where your animals will begin to suffer. Though your water may test safe one month, there is no guarantee that it will test the same the following water test. Your aquatic life is constantly releasing waste products into the aquarium that will influence your aquarium water. Fish foods, medications, water conditioners and chemical media can also influence the water quality.



**BUTTERFLYFISH REQUIRE EXCELLENT WATER QUALITY TO REMAIN HEALTHY IN THE AQUARIUM.**

## Community Freshwater Aquariums

In the freshwater community aquarium, water testing should consist of pH, ammonia, nitrite, carbonate hardness (KH) and general hardness (GH) and nitrate. In a mixed community aquarium, we suggest the following:

pH – 6.8-7.6

Ammonia – 0

Nitrite – 0

KH – 1-3 degrees

GH – Less than 10 degrees

Nitrate – Less than 30ppm



**MIXED COMMUNITY TANK WITH LIVE PLANTS**

If you include live plants in your community aquarium, you should also be monitoring phosphate levels. Elevated phosphates will cause problem algae to destroy the beauty of your plants.

Phosphates – Less than .1ppm

## African Cichlid Aquariums

African cichlid aquariums have different requirements. These fish come from hard, alkaline water that is low in organic material. Our suggestions for water quality in this type of aquarium are:

pH – 7.8-9.0 (depending on what lake your cichlids originated from)

Ammonia – 0

Nitrite – 0

KH – 8-14 degrees

GH – Greater than 15 degrees

Nitrate – Less than 30ppm

Salt – 3ppt – 5ppt



**MBUNA AFRICAN CICHLIDS FROM LAKE MALAWI**

### **Soft Water Aquarium Mix**

This type of freshwater aquarium would house mainly soft water fish such as tetras, rasboras, corydoras catfish, discus, angelfish, bettas and gouramis. Though some of these fish may be found in waters with a pH as low as 5.0, in the aquarium we suggest keeping the pH in a range that will support the biological filter. Charleston tap water is naturally soft and makes an excellent source for housing these types of freshwater fish.

pH – 6.5-7.2

Ammonia – 0

Nitrite – 0

KH – 1-2 degrees

GH – Less than 10

Nitrate – Less than 20ppm



**DISCUS PREFER SOFT CLEAN WATER TO THRIVE**

### **Brackish Water Fish Aquariums**

Brackish water aquariums are gaining in popularity at Tideline. Many of these fish have traits similar to saltwater fish though they are not as demanding. The brackish aquarium would contain species like “freshwater” pufferfish,

scatophagus, monos, archerfish, brackish water gobies, anableps, datnoids and even mollies.

Many of these fish prefer harder, more alkaline water with salt levels that vary regularly. These fish are often collected in mangrove swamps.

These swamps contain clean waters that vary in organic levels and salinity that changes with the tides. Some of these species even move into pure saltwater as they reach adulthood.

pH – 7.5-8.0

Ammonia – 0

Nitrite – 0

KH – 3-8 degrees

GH – Greater than 15 degrees

Nitrate – Less than 20ppm

Salinity – 1.005 – 1.015 varying slowly



**BRACKISH WATER ARCHERFISH SPITTING WATER AT PREY**

### **Saltwater Fish Aquarium**

Marine fish need stable water conditions to thrive. Many freshwater fish are found in waters that change from season to season. For this reason these fish have developed the ability to adapt to changes in water quality. On the reefs, water quality does not change. The reefs are always pristine and completely stable meaning that marine fish are less likely to be able to adapt to less than perfect water quality. We suggest these water parameters for a “fish only” saltwater aquarium.

pH – 8.1-8.4

Ammonia – 0

Nitrite – 0

KH – 10-14 degrees

Nitrate – Less than 20ppm

Salinity – 1.018-1.022

Though ocean water contains a salinity of 1.023-1.025, we suggest the lower salinity to reduce

issues with parasite reproduction and lowered marine fish metabolism. All of our marine fish at Tideline Aquatics are kept in a salinity of 1.020 in our “fish only” systems. This will also allow for easier acclimation from our aquariums to your aquarium. Live rock may be kept in this lower salinity but we do not suggest keeping invertebrates other than hermit crabs.



MARK LECOATER'S "FISH ONLY" AQUARIUM

### REEF AQUARIUMS

Reef organisms require ideal water conditions with the least amount of variation. If changes must be made in a reef aquarium, it should be done gradually over several days to prevent losses. Animals like shrimp, snails and live corals will not tolerate sudden changes easily and can die within days after a stressful occurrence. When performing partial water changes on these style aquariums, one needs to pay close attention to the existing water parameters so as not to change them too quickly, especially in salinity. These are the parameters we maintain our reef organisms at Tideline Aquatics with excellent success.

pH – 8.1-8.4

Ammonia – 0

Nitrite – 0

KH – 8-12 degrees

Salinity – 1.023-1.024

Nitrate – Below 5ppm

Phosphate – Below .05ppm

Calcium – 400-450ppm

Notice that there are additional tests that are required to maintain a successful reef aquarium. Inhabitants like shrimp, crabs, live corals and encrusting coralline algae require proper calcium levels for ideal growth and health. Phosphate and nitrate levels are critical for a healthy reef aquarium. Elevated levels are not only toxic to the reef animals; they will also lead to problem

algae that will destroy the beauty and health of your reef organisms.



KEITH BIGG'S PRISTINE REEF AQUARIUM

### GARDEN PONDS

Goldfish and koi are hardy fish but they do have their limits. Less than acceptable water quality may not outright kill your fish but it may cause them enough stress to weaken their immune system and cause a disease outbreak. Pond fish also benefit from regular monthly partial water changes to help maintain stable water conditions. Remember that topping off your pond from evaporation is not a partial water change. Only the water evaporates; the organic material remains in the pond.

pH - 7.0-8.4

Ammonia – 0

Nitrite – 0

KH – 2-8 degrees

GH – not critical for health

Nitrate – below 50ppm

Salinity – 3ppt (when medicating only)



GOOD WATER QUALITY EQUALS HEALTHY KOI

Now that you have found where the parameters of your aquarium or pond should be kept, you may want to know how to correct them if they

become out of a safe range. There are numerous products available in the hobby but here we will include only products that we have found to be effective in our 20+ years of experience. This does not mean other products available are not good products, it just means that we may have not personally used these products in the store.

### **Adjusting pH and KH**

Instead of focusing on adjusting the pH, we suggest maintaining the proper pH by keeping the KH level correct for your aquarium or pond. As we discussed in a previous newsletter, the pH level in your aquarium is based on the aquariums KH level. Avoid buffers that specifically affect on pH as most of them are loaded with phosphates that can lead to additional aquarium problems. If your KH is normal but your pH is low, this can mean that the oxygen levels in your aquarium may be low causing an accumulation of CO<sub>2</sub> that lowers the pH. Often additional surface agitation such as an airstone or power head will fix this problem. Aquariums and ponds loaded with organic material can also cause the pH to remain low. Perform a partial water change to reduce the organics usually helps. In freshwater aquariums and ponds, we suggest adding a portion of coral gravel contained in a nylon bag to a high-flow area such as the filtration system (power filter, canister filter, etc). As the soft water passes through the coral gravel, the calcium carbonate is eroded from the coral slowly over time therefore increasing the pH and KH of the water. Other products like pH Control Plus by KENT work well to increase the KH and thus the pH. Saltwater aquariums and cichlid aquariums need the KH level to be higher than many salt mixes provide. We suggest using KENT SuperBuffer or SEACHEM Reef Builder to adjust the KH of the water. If the aquarium is maintained properly, the pH will climb to the proper levels within 24 hours of adjusting the KH.



**EXCELLENT PRODUCTS FOR ADJUSTING THE KH AND pH IN AQUARIUMS AND PONDS**

### **Ammonia and Nitrite**

First, understand that if you have a newly set up aquarium or pond, ammonia and nitrite levels will be elevated for 2-4 weeks. Until the biological filter becomes established, these levels will fluctuate. You can speed up this process though. By moving a small amount of gravel or sand from an established aquarium or pond into your new aquarium, the introduction of nitrifying bacteria will speed things along. Food should be kept to a minimum and fish stocking should be kept extremely low and limited to fish that can tolerate temporarily high ammonia and/or nitrite. In reef aquariums, one can establish the biological filter by simply loading the tank with live rock. No fish are required when using this method as the porous live rock is teeming with nitrifying bacteria that will alone establish the biological filter. If your aquarium has been running with animal life for 6 weeks and the ammonia and nitrite levels are still elevated then there is a problem. Either you have an inadequate filtration system (no biological filter incorporated in the design) and/or you have too many fish or too much food for your aquarium to become stable. See a Tideline Aquatics employee to help you establish the problem with this type of condition.

If your established aquarium or pond tests positive for ammonia or nitrite, you will want to quickly identify the problem. Check to ensure that your biological filter is operating properly. Stop feeding the animals for about three days to reduce the load on the biological filter. Perform a 25%-30% partial water change to reduce the concentration of ammonia and nitrite in the water. There are also biological enhancers that can add nitrifying bacteria to the aquarium for quickly reducing the ammonia. We suggest trying products like SEACHEM Stability or TROPICAL SCIENCE Nitromax. Established aquariums should never experience ammonia or nitrite issues unless you have added too many fish, are feeding the fish too much or you have added a medication that has affected the bacteria in the biological filter. Another cause can be when you clean your biological media (bioballs, biowheel, biofoam, etc) with tap water thus killing the nitrifying bacteria that have colonized there. If these medias need cleaning, always use water from the aquarium or pond OR mix

dechlorinated water (saltwater for marine aquariums) to gently clean the media. You must fix ammonia and nitrite issues quickly to prevent the death of your animals in established aquariums.



**BIOLOGICAL ADDITIVES FOR AMMONIA AND NITRITE CONTROL**

One can also add these products each time you perform a partial water change or add new fish to help boost your biological filter.

**General Hardness (GH) – Freshwater Aquariums Only**

As we mentioned above, Charleston tap water is naturally soft. If your GH is higher than recommended, a simple water change or two can easily fix the problem. Freshwater aquariums that contain aquarium salt will often have higher GH values. Filtering the water through a nylon bag filled with Peat Moss can also soften the water. Water softening resins are also available like API Water Softener Pillow that can be added to your filter to lower the GH. Just remember that some simple partial water changes are the easiest way to lower the GH of your water.



**WATER SOFTENING (GH) PRODUCTS**

**Lowering Nitrates...NITRATES**

Look at the word NITRATES so as not to confuse it with nitrites. Nitrate levels climb as your aquarium water ages due to the reduction by bacteria of ammonia and nitrites. The end product nitrate is not toxic to the aquarium life if kept within acceptable levels. Different aquatic life has different levels of tolerance for nitrates as you can see when comparing the accepted levels in the first part of this newsletter. Nitrates are easily kept at bay by simply keeping up with regular partial water changes. Our city tap water contains no detectable nitrates. In reef

aquariums, the use of reverse osmosis water is required for partial water changes. This water also contains no measurable level of nitrates. Your aquarium or ponds stocking level will directly affect the accumulation of nitrates. More animals means quicker reductions of ammonia and nitrite into nitrate meaning you will need to do more frequent partial water changes to keep the nitrate level within a safe range. In reef aquariums, the addition of a refugium will naturally reduce nitrates as they are produced. Within the core of live rock, nitrate reducing bacteria live to help naturally maintain low nitrate levels. Nothing replaces partial water changes though. By monitoring your aquarium or ponds nitrate level, you will know whether you are doing frequent enough partial water changes. Nitrate reducing resins and media are also available though they are not a replacement for partial water changes!!



**NITRATE CONTROLLING PRODUCTS**

**Keeping Phosphates in Check**

Reef organisms will die when elevated phosphates are present. Phosphates also lead to nasty algae blooms that can suffocate live corals and smother live rock. Charleston city tap water contains elevated phosphate that varies daily. City tap water should NEVER be used to either top off your reef aquarium or to use when performing partial water changes. You can use reverse osmosis water, distilled water or deionized water for use in this type of aquarium. Phosphates can climb naturally from the addition of certain types of fish foods and additives. We suggest using SECHEM Phosguard, CARIBSEA Phos Buster or TWO LITTLE FISHES Phosban for maintaining acceptable phosphate levels. If your phosphate level is above 1.0ppm, first lower them by performing several 25%-30% partial water changes and then adding a phosphate removing product to keep them at bay. These products must be placed in a high-flow area of

your filtration system for them to be effective. There are also reactors for housing these products that force water through the media for the maximum efficiency.



**PHOSPHATE REMOVING PRODUCTS**

### Get the Calcium Level UP!!

Maintaining strong calcium levels is not as easy as one may think. Expensive calcium reactors work best though there are alternatives that work well as long as you add them per the instructions. Increasing the calcium is never quick and if you try over-dosing your calcium additive, it will only lead to even lower calcium levels as it falls out of solution when over-dosed. You must also watch your KH value in the aquarium. If the KH is kept over 12 degrees, it is nearly impossible to get the calcium level above 300ppm. Keeping your salinity at 1.023-1.024 will also assist in maintaining proper calcium levels in your reef aquarium. Testing of the calcium should be performed weekly until you find you have been able to keep it stable. Then, a once every two week test should suffice. Always follow the directions completely on whatever calcium product you use to prevent overdosing. There are MANY calcium products available with all types of claims but we have found a few that have worked well for us: KENT Calcium, KENT 2-Part Calcium, SEACHEM Reef Calcium, CARIBSEA PurpleUp, Kalkwasser



**CALCIUM PRODUCTS AVAILABLE**

### Maintaining the Salinity

In aquariums where salt is used, one must monitor the salt levels (salinity) to ensure they are within a safe range. A hydrometer will suffice though it should be calibrated against a refractometer for accuracy. INSTANT OCEAN Hydrometers are about the best when compared with other brand similar hydrometers. We perform calibration tests for free when you bring in your hydrometer to the store. If your unit is inaccurate, we can let you know by how much so you can adjust your salt level based on the true reading of your hydrometer. In situations where very low salt levels are maintained, regular saltwater hydrometers may not be as accurate. We suggest the CORALIFE Pond Hydrometer for these situations. Though it is made for ponds, it also works well in brackish water and cichlid aquariums.



**HYDROMETERS FOR SALTWATER, BRACKISH WATER, CICHLID AQUARIUMS AND PONDS**

### Conclusion

Testing your water is important for the health of your animals. The frequency of testing is up to you and should be based on how much your aquarium conditions vary, the load of animals you have in your aquarium, your attention to partial water changes/aquarium maintenance and the filtration system your aquarium incorporates. The parameters listed here are suggestions based on our years of experience in the aquarium industry. If you are setting up a species tank (specifically for one type or group of fish from one area), then do some research on what it/they will require. We are always available to assist you with any water quality issues that may arise! Test kits are a minor money investment compared with the cost of your aquarium inhabitants. Allow them to live a long life by giving them what they need – good water quality!

## LOCAL CLUBS / ORGANIZATIONS/FORUMS

Have a reef aquarium? Check out our local reef club at: [www.charlestonreefers.org](http://www.charlestonreefers.org)

Love water gardens and koi? Visit the Charleston Showa Koi Club website at: [www.charlestonshowakoiclub.org](http://www.charlestonshowakoiclub.org)

Saltwater fish aquarium club – CMAC  
[www.columbiamac.org](http://www.columbiamac.org)

Question and Answer Forum –  
[www.wetwebmedia.com](http://www.wetwebmedia.com)

## Fish of the Week



THE HUMU OR PICASSO TRIGGERFISH – RHINECANTHUS ACULEATUS

If your aquarium contains fish like Dogface Puffers, Groupers, Lionfish, Tough Wrasses and Larger Angelfish, then a Humu Triggerfish will likely be a good addition. This is one of the hardest marine fish around though they are not the friendliest! Humu's are food hogs that enjoy a mix of chopped seafoods, invertebrates like fiddler crabs and even some plant material. This fish is not picky about water conditions as long as they are within a safe range for marine fish. Reaching up to 5" with time, this fish will survive for many years in the aquarium. If you want to add other triggerfish with the Humu, we suggest using a larger Niger Trigger (*Odonis niger*) or even a slightly larger Clown Triggerfish (*Balistoides conspicillum*). Humu triggerfish must be kept with more aggressive fish as they will make a meal out of peaceful gobies and

blennies. No invertebrates should be kept with this fish as the trigger will quickly consume it! This is just one of the specials this week at Tideline Aquatics. Print off the coupon at: [www.tidelineaquatics.net](http://www.tidelineaquatics.net)

## What's New At Tideline

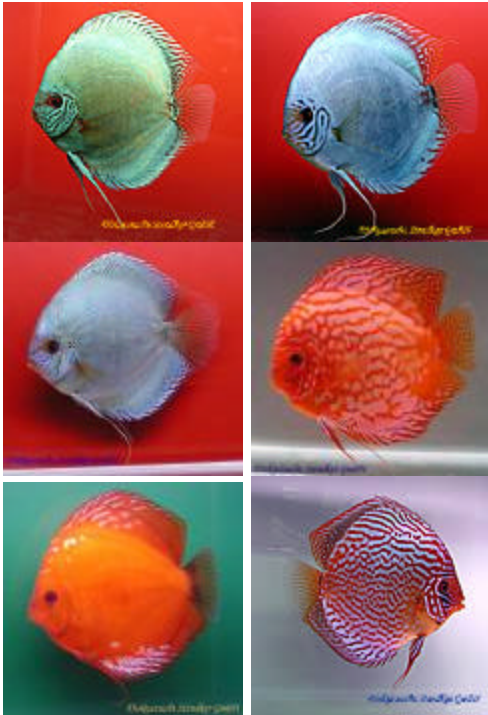
### **FEEDERS (NOW IN STOCK):**

Feeder Guppies (Getting Low), Feeder Goldfish (Running Low), Feeder Rosy Reds (Plenty), Feeder Crayfish (Running Small), Feeder Fiddler Crabs (In Stock) and Live Black Worms (Out of Stock). **Ghost Shrimp are sold out until next Tuesday afternoon.**

### **FRESHWATER FISH (NOW IN STOCK):**

Fancy Guppies, Uaru Cichlids, Clown Loaches, Bleeding Heart Tetras, Zebra Danios, Tiger Barbs, Fancy Plecostomus, Brightly Color Platies, Many Cool Botias, All types of Angelfish, Freshwater Flounders, Archerfish, Spotted Pufferfish, Mono Argentius, Dempseys, Oscars, Silver Dollars, Severums, Salvinis, Lots of Mixed African Cichlids, Marigold Swordtails, Red Tuxedo Swordtails, Dalmation Mollies, Male Bettas, Dwarf Red Flame Gouramis, Gold Gouramis, Opaline Gouramis, Small Common Plecostomus, Albino Corydoras Catfish, Queen Botias (**Botia Dario**)-(very nice!), **Botia Striata** Loaches (beautiful), Tiger Botias (for more aggressive tanks), **Australian Jardini Arowana**, **Redtail Freshwater Barracudas**, **M/L African Elephantnose**, **Halfbeaks**, Green Scatophagus, **African Baby Whales**, Black Skirt Tetras, Red Serpae Tetras, **Galaxy Rasboras**, Dwarf African Frogs, Red Starfire Glo-fish™, Medium Royal Plecostomus, Apistogramma Cacaotoides Dwarf Cichlids, Chocolate Cichlids, Tiger Shovelnose Cats, Many Nice Wild Collected Corydoras Catfish, Small Fire Eels, Black Neon Tetras, Silver Hatchetfish, Harlequin Rasboras, Mixed Balloon Mollies, Mixed Large Platies, Badis Badis, Large Hypostomus Plecostomus (Trinidad), Male Cobalt Dwarf Gouramis, Pearl Leeri Gouramis, Mixed Orandas, XL Black Coolie Loaches, Curviceps Dwarf Cichlids, Electric Blue Haplochromis Ahli, Colombian Shark Catfish, Otocinclus Dwarf Algae-Eaters and more!!!

## German Stendker Discus Now In Stock!!!!



We have 3"-4" juveniles of all of the adult hybrids pictured above. In order from left to right: Green Turquoise (Flachen), Blue Cobalts, Blue Diamonds, Pidgeon Blood Reds, Marlboro Reds and Red Scribbled. These fish have been through dewormer treatment and fluke treatment. They are already eating all types of dry and frozen foods. Want to check out photos from the hatchery in Germany: Follow the link below - [www.diskuszucht-stendker.de/pages/about\\_us.html](http://www.diskuszucht-stendker.de/pages/about_us.html)

## LIVE AQUARIUM PLANTS (ARRIVING FRIDAY):

I intended to bring home our new plant list to post here but inadvertently left it on my desk this afternoon. We have a huge plant shipment arriving Friday afternoon again with more new plant varieties we have never been able to obtain. If you would like a detailed list of the new plants please email me at: [chris@tidelineaquatics.net](mailto:chris@tidelineaquatics.net)

## SALTWATER FISH (NOW IN STOCK):

Cebu Trimma Gobies, Bali Yellow Watchman Gobies, Tank Bred Watchman Gobies, Red Sea Asfur Angelfish, Cortez Passer Angelfish, Tank Bred Clownfish (Ocellaris, Tomato, Skunk), Show Sri Lanka Clown Tang, Indian Ocean Clown Tangs, Bali Chocolate Tangs, Indian Ocean Clown Triggerfish, Hawaiian Humu Triggerfish, Indian Ocean Dogface Pufferfish,

Red Sea Desjardini Sailfin Tangs, Indonesian Orange Rhinopias Scorpionfish (RARE), Bali Foxface Rabbitfish, Hawaiian Pink Tail Triggerfish, Fiji Coral Beauty Angelfish, Hawaiian Flame Angelfish, Sumatra Ocellaris Clownfish, Sumatra Gold Bar Maroon Clownfish, Sri Lanka Sebae Clownfish, Indian Ocean Purple Firefish, Indian Ocean Powder Brown Tangs, Indian Ocean Fuzzy Dwarf Lionfish, Bali Yellow Mimic Tangs, Indian Ocean Solorensis Fairy Wrasses, Caribbean Neon Cleaner Gobies, Caribbean Porcupine Pufferfish, Indian Ocean Koran Angelfish, Bali Eiblii Angelfish, XL African Mappa Pufferfish, Indian Ocean Dogface Pufferfish, Indian Ocean Heniochus, Australian Male Banana Wrasse and much more!!

## SALTWATER INVERTEBRATES (NOW IN STOCK):

Green Blasstomussa Corals, Pulsing Xenia Rocks (the real thing!), Cleaner Shrimp, Fire Shrimp, Red Hard Tube Coco Worm Feather Dusters, Nice Size Tonga Nassarius Sand Snails, Sebae Anemones, Long Tentacle Anemones, Bubble Anemones, Tridacna derasa Clams, Indonesian Assorted Mushrooms (a nice mix), Tonga Green Ricordea Mushroom Rocks, Tonga Hairy Purple Mushroom Rocks, Tonga Green Hairy Mushroom Rocks, Green Striped Mushroom Rocks, Blue Mushroom Rocks, Red Mushroom Rocks, Assorted Nano Corals, Red Chili Soft Coral, Wild Collected Anthelia Rocks, Green Pipe Organ Corals, Green Zoanthid Rocks, Orange Assorted Zoanthid Rocks, Green Cactus Pavona Coral, Green Hydnothra Corals, Porites Corals, Green Star Polyp Rocks, Fiji Platygyra Worm Brain Coral, Assorted A-Grade Favia/Favites Corals, Super Red Blasstomussa wellsii Corals, Hard Finger Leather Corals, Yellow Fiji Leather Coral, Gold Ultra Spaghetti Leather Coral, Super Green Hairy Tree Leather Corals, Cortez Cerith Snails, Cortez Redtip Reef Hermits, Caribbean Ricordea Polyps on tiny rocks, Caribbean Peppermint Shrimp, Atlantic Turbin Algae Snails, Scarlet Redleg Reef Hermit Crabs, Blue Leg Reef Crabs and more. We have some Fiji and Tonga live rock remaining in stock with a new shipment expected next week.